

## **REMARKS**

The Applicants respectfully request reconsideration in view of the following remarks. No claims have been amended, cancelled or added. Accordingly, claims 1-20 are pending in the Application.

### **I. Claim Rejections – 35 U.S.C. §103**

Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2007/0230545 by Lennen *et al.* (“Lennen”) in view of U.S. Patent No. 5,379,224 issued to Brown *et al.* (“Brown”).

To determine obviousness of a claim: (1) factual findings must be made under the factors set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966); and (2) the analysis supporting the rejection under 35 U.S.C. § 103 should be made explicit and there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See MPEP §§ 2141(II), 2141(III), and 2142; KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385, 1396; see e.g., MPEP § 2143 (providing a number of rationales which are consistent with the proper “functional approach” to the determination of obviousness as laid down in Graham).

In regard to the rejection of claim 1 under 35 U.S.C. § 103, this claim recites

“A GPS receiver comprising a GPS antenna and a GPS RF front-end including an analogue to digital converter for sampling received GPS signals wherein the resulting GPS signal samples contain an intermediate frequency (IF) signal which remains modulated; and a processor for outputting the GPS signal samples together with ancillary information either directly or indirectly describing characteristics of the GPS signal samples and/or the GPS signals which relate to the GPS receiver, wherein the ancillary information allows GPS signal processing software to adapt to characteristics of the GPS receiver” (emphasis added). However, the Applicants submit that the combination of Lennen and Brown fail to disclose these elements of claim 1.

Lennen generally discloses a standard GPS receiver that is adapted for dual frequency reception. The Examiner cites page 3, paragraphs [0037]-[0039] of Lennen to disclose the cited elements of claim 1. These paragraphs disclose, in particular, the down-conversion and sampling of the two satellite signals L1 and L2. These paragraphs also explain that channel processors are

provided to process the signal samples to detect and track carrier and code phase. A microprocessor then uses this data to provide position, velocity and time solutions to a user.

Further, the system of Lennen is a “real-time” type GPS receiver and not a “software GPS” type with which the apparatus of claim 1 is concerned. In a typical software GPS system, GPS signal samples are produced by a simplified receiver and typically passed to another device (e.g. a PC) for processing by suitable GPS signal processing software.

However, the GPS receiver of claim 1 recites a software GPS system with greater flexibility, such that an arbitrarily chosen pairing of a GPS receiver and GPS signal processing software would be interoperable despite not having been designed with each other in mind. According to claim 1, this flexibility is provided by the receiver outputting GPS signal samples together with ancillary information describing characteristics of the samples themselves and/or the signals they represent. This ancillary information (a kind of “metadata”) can then be used by the GPS signal processing software to adapt to the particular characteristics of the GPS receiver, thus promoting compatibility between wider ranges of receivers and processing software.

More specifically, Lennen does not disclose “a processor for outputting the GPS signal samples together with ancillary information” as recited in claim 1.

Although the Examiner has cited several paragraphs of Lennen to allegedly disclose the noted elements of claim 1, the Applicants are uncertain as to the Examiner’s interpretation of the objects in these sections that allegedly disclose the elements of claim 1. Accordingly, the Applicants submit several possible interpretations of these sections and their failure to disclose the cited elements of claim 1.

Lennen discloses intermediate frequency GPS signal samples 26 that are produced by the RF section 24. This is equivalent to the RF front-end recited in claim 1. Lennen also discloses digital channel processors 12 and a microprocessor 14. However, neither of these “processors” output “GPS signal samples [that] contain an intermediate frequency (IF) signal which remains modulated” as recited in claim 1. Rather, they output (i) “code and carrier phase measurements” and/or (ii) “position, velocity and time solutions.” Accordingly, these components do not disclose the processor recited in claim 1. Additionally, the “processors” of Lennen also do not output anything that could be construed as “ancillary information” as recited in claim 1.

Further, the Applicants have also considered the possibility that the Examiner believes one set of GPS samples (corresponding to one of the signals L1 or L2) to be the “GPS signal

samples” recited in claim 1 and the respective other set of GPS signal samples to be the “ancillary information.” However, this would be contrary to a literal interpretation of Lennen, since both the L1 and L2 sets are “GPS signal samples.” Regardless, a further set of GPS signal samples does not comprise “ancillary information...describing characteristics of the GPS signal samples or the GPS signals” as required by claim 1. For this to be true, either the L1 or L2 samples would have to describe characteristics of the other, which is not disclosed in Lennen.

The Applicants also note that this reading of claim 1 and the prior art would require the RF section 24 of Lennen to be both the GPS RF front-end and the processor of claim 1. The Applicants submits that the “RF section” could be interpreted to be within the scope of a “processor” as recited in claim 1, because the “RF section” does not exhibit the characteristics of a processor.

Similarly, the Examiner might be equating a combination of the RF section 24 and Frequency Synthesizer 28 of Lennen with the “processor” recited in claim 1. In this case, the Examiner is perhaps interpreting the clock signals 34 and 36 as the information “ancillary” to the GPS signal samples 26. Again, the Applicants respectfully disagree with this construction. Firstly, as stated above, the “RF section” is not a “processor.” Moreover, the “Frequency Synthesizer” could also not be the processor of claim 1 as it does not exhibit the characteristics of a processor. Secondly, a clock signal does not comprise “ancillary information” as claimed, because a clock signal does not “describe” anything, let alone describe “characteristics of the GPS signal samples and/or GPS signals which relate to the GPS receiver” as required by claim 1.

As described above, regardless of the interpretation applied to the claims by the Examiner, the Applicants submit that Lennen does not disclose all the elements ascribed to it by the Examiner. In short, there is no apparatus disclosed by Lennen which outputs IF modulated GPS signal samples together with ancillary information.

The output of IF modulated signal samples accompanied by ancillary information goes to the heart of the purpose of the GPS receiver of claim 1. When such signal samples are output for software processing by other components (rather than being processed within the receiver, as in Lennen), compatibility between those components and the GPS receiver becomes a problem See Specification as filed, Page 2, Lines 20-28. The GPS receiver of claim 1 solves this problem, because the ancillary information that is output together with the signal samples enables GPS signal processing software to adapt to the characteristics of the GPS receiver.

Because Lennen is not faced with this problem, there is appropriately no disclosure in Lennen which teaches or suggests that “ancillary information allows GPS signal processing software to adapt to characteristics of the GPS receiver.” This is evident because Lennen does not mention GPS signal processing software nor is there any discussion of adapt anything to the characteristics of Lennen’s GPS receiver.

Thus, for at least the reasons described above, Lennen fails to teach the cited elements of claim 1. Further, Brown fails to cure the deficiencies of Lennen.

Brown discloses the transmission of GPS signal samples over a data telemetry link. However, as discussed in detail in the Applicants’ previous response mailed December 5, 2008, Brown also lacks any teaching or suggestion of “ancillary information” in the terms of claim 1, or its output “together with” the GPS signal samples. Thus, Brown does not remedy the deficiencies of Lennen.

Additionally, the Applicants dispute that there is any motivation for a person of ordinary skill in the art to combine Brown with Lennen. In any case, even if the two references were to be combined, as described above, their combination does not amount to the GPS receiver of claim 1. Neither the problem that has been overcome by the GPRS receiver of claim 1 nor the means of achieving the solution is taught or suggested by either reference. Therefore, the Applicants respectfully submit that claim 1 is not rendered obvious over Lennen in view of Brown, because neither document suggests “ancillary information” or its use, as claimed. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection of this claim.

Claim 9 includes elements analogous to those of claim 1. For at least the reasons discussed above in regard to the 35 U.S.C. § 103 rejection of claim 1, the combination of Lennen and Brown does not disclose these elements of claim 9. Moreover, claim 9 recites “processing the GPS signal samples using the ancillary information to determine a position fix.” However, the Examiner has not cited and the Applicants have been unable to locate any section of Lennen or Brown which disclose these elements. Thus, the combination of Lennen and Brown does not teach or suggest each element of claim 9. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection of this claim.

In regard to claims 2-8 and 10-20, these claims depend from independent claims 1 and 9, respectively, and incorporate the limitations thereof. As discussed above, the combination of Lennen and Brown does not disclose all the limitations of claims 1 and 9 which are incorporated

in claims 2-8 and 10-20. Thus, the combination of Lennen and Brown does not teach or suggest each element of claims 2-8 and 10-20. Accordingly, the Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2-8 and 10-20 on this basis.

Further, if the Examiner wishes to sustain the current rejections, the Applicants respectfully request that the Examiner explicitly identify the elements of Lennen that the Examiner is equating with the claimed "ancillary information." As the foregoing arguments will no doubt demonstrate, the Applicants have so far had great difficulty in understanding what (especially in the repeatedly cited paragraph [0039] of Lennen) the Examiner might be referring to that could possibly be read onto the "ancillary information" as claimed.

## **II. Change of Address**

The Applicants respectfully request that any future correspondences be sent to the address corresponding to customer number 08791. The Applicants previously filed a change of address along with a Revocation of Power of Attorney with a New Power of Attorney on October 10, 2008. However, it appears this new address has not been updated as the outstanding Office Action was sent to the old correspondence address. A copy of the change of address along with electronic acknowledgement receipt is enclosed for reference.

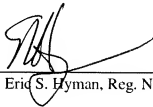
**CONCLUSION**

In view of the foregoing, it is believed that all claims now pending are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN

Dated: 6/29/09

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**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being submitted electronically via EFS Web to the United States Patent and Trademark Office on the date shown below.

  
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6/29/09  
Date

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	4098666
<b>Application Number:</b>	10578933
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4533
<b>Title of Invention:</b>	Gps receiver and related method and apparatus
<b>First Named Inventor/Applicant Name:</b>	Stephen Townsend
<b>Customer Number:</b>	65913
<b>Filer:</b>	Eric S. Hyman/Alexis Karriker
<b>Filer Authorized By:</b>	Eric S. Hyman
<b>Attorney Docket Number:</b>	G803 0201 US1
<b>Receipt Date:</b>	10-OCT-2008
<b>Filing Date:</b>	08-MAY-2006
<b>Time Stamp:</b>	17:34:36
<b>Application Type:</b>	U.S. National Stage under 35 USC 371

### Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		5926p075_REVPOA_101008.pdf	70093	yes	2
			4b4b6a79ca28c686f63a2f22a500d8114c07f		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Oath or Declaration filed	1	1
	Assignee showing of ownership per 37 CFR 3.73(b).	2	2

**Warnings:**

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



<b>REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS</b>	Application No.	10/578,933
	Filing Date	May 8, 2006
	First Named Inventor	Stephen Townsend
	Group Art Unit	3662
	Examiner Name	Nguyen, Nga X.
	Attorney Docket Number	5926P075

I hereby revoke all previous powers of attorney given in the above-identified application:

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners associated with Customer Number: **08791**

☒ Please change the correspondence address for the above-identified application to:

☒ The address associated with  
Customer Number: **08791**

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I am the:

☐ Applicant.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under of 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

Name	<i>Stephen Francis</i>
Signature	<i>[Signature]</i>
Date	<i>02-10-2008</i>

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of \_\_\_\_\_ forms are submitted.